

being presented in succession on the display. Further, the user can select a page for viewing by stopping the flicking action.

[0058] FIGS. 10A-10C illustrate configurations for computing device 100, in which stored values of select pages are assigned to discrete elements 322 of display 120 at times before, during and after a page flick. For simplicity, the stored values for each discrete element 322 are described and illustrated with reference to bit values, although values for each discrete element may range depending on the type of display. For example, color displays may use color values using multiple bits.

[0059] The stored values that are to be assigned to each discrete element of display 120 are part of a larger data collection representing the paginated content. An example of a data collection configured for paginated presentations is an electronic book. In an embodiment, bit values of each page are stored in first memory 144 (FIG. 4) of computing device 100. Each bit value may be assigned to appear on particular discrete elements 322 of display 120 when that page is selected. Alternatively, values may be assigned to different portions of the display 120 to enable the user to scroll vertically or sideways and view portions of each page on the display.

[0060] FIG. 10A-10C illustrates bit values from the data collection at three durations: prior to receiving the page flick ( $t=0$ ); during the page flick ( $t=N$ ); and after the page flick ( $t=F$ ). The pages assigned from each value are denoted by subscripts. The subscript 0 represents the current page. FIG. 10A shows that at  $t=0$ , processor 140 presents only the current page. The bit values from that page appear on every discrete element 322.

[0061] Upon the page flick being entered by a user, FIG. 10B illustrates the duration N, where pages are sequentially presented. During the duration N, all or portions of display 120 presents multiple pages in sequence, so as to be in flux. An embodiment provides that the current page is presented on display 120 concurrently with another page that is continuously changed until the page flick ends. The current page may be static and appear on first display portion 310. A second display portion 315 may present pages that are continuously changed. The bit values of the pages that are continuously changed are denoted by the subscript J. The pages denoted by J are part of a set presented on second display portion 315 during the duration  $t=N$ . The page numbers in the set of pages may range in either direction from the current page, depending on a value of the page flick. The page numbers denoted by J may also skip, or follow one another sequentially. For example, for a large page flick value, the page numbers contained in the set denoted by J may skip. In addition, the number of pages appearing in the set denoted by J may depend on the value of the page flick. For any duration, the page flicking value may be slow or fast. The duration of N may include more pages in the set of J for larger page flick values.

[0062] In an embodiment, second display portion 315 is positioned on the most viewable length of display 120. That may correspond to a centrally positioned strip having a width that is only a proportion of the overall width of display 120. If display 120 is bendable, second display portion 315 may correspond to a length of display 120 appearing left of the display's center line. The left side is most viewable if the user is bending a right end of display 120.

[0063] FIG. 10C illustrates display 120 at  $t=F$ , where discrete elements 322 assert bit values from the final page selected by the user as a result of the page flick. The final page is represented by bit values with subscripts K. In the natural order of the data collection (i.e. sequential page numbers of a book), K may precede or be subsequent to the page represented by the subscripts 0 and J. The page K may be selected as a result of the user viewing one of the many pages presented during the interval N.

[0064] While embodiments described with FIGS. 9A-9C describe the current page as being presented concurrently with other pages being flicked, other embodiments may dedicate the entire area of display 120 for pages that are flicked. While this would require more processing and memory resources, the visual effect may be easier to view by the user.

[0065] Another embodiment may display only portions of each page being flicked. For example, second display portion 315 may blank every other row of discrete elements 322. The result would be that the portion of display 120 used for displaying flicked pages is blurred, while giving the user sufficient page presentation to enable the user to be able to identify features of characteristics of each page flicked. Blurring the flicked pages in this manner preserves memory and processing resources of computing device 100.

[0066] Still further, the computing device 100 may be configured to intelligently blur or omit data from the pages being flicked. Substantially blank pages may be skipped during page flicks. Blank lines or pages may be omitted.

#### [0067] D. Other Embodiments

[0068] While embodiments described herein for computing device 100 describe housing 210, it is possible for computing device 100 to not have a housing that is separate from display 120. For example, certain types of electronic paper in production may form the top panel 212 of the housing 210 for computing device 100.

[0069] Under another embodiment, a page flicking mechanism may be coupleable to a handheld computer to enable users to flick pages of paginated content provided on the handheld computer. A page flicking mechanism comprising sensor device 230 may be coupled to a port of a handheld computer. Examples of handheld computers for use with such an embodiment includes personal digital assistants (PDAs), such as those manufactured by Palm Inc., or those operating WINDOWS POCKET PC operating systems. The page flicking mechanism may communicate with a processor of the handheld computer through a serial port, wireless port (having infrared, Bluetooth or radio-frequency characteristics), or other communication ports, such as Universal Serial Busses (USB).

[0070] In the foregoing specification, the invention has been described with reference to specific embodiments thereof. It will, however, be evident that various modifications and changes may be made thereto without departing from the broader spirit and scope of the invention. The specification and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense.